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CONLEY ROSE, P.C.			MELLON, DAVID C	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/598,135

**Applicant(s)**

BIESTER, KLAUS

**Examiner**

DAVID C. MELLON

**Art Unit**

1777

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2010 and 27 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,9-11,15,16,21-34 and 36-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,9,10,15,16,22-34,36 and 41-45 is/are rejected.
- 7) ☒ Claim(s) 5,6,11,21 and 37-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-502)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/2010 and 6/30/2010 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 2, 16, 23, 25, 27-28, 36, and 42-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Regarding claim 2, it is unclear and indefinite as to whether Applicant intends the inlets to be linked to the delivery lines in some manner.

Claim 16 recites the limitation "the delivery lines" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is unclear and indefinite as to whether these are the same or additional delivery lines as these delivery lines are claimed within a vertical pipe.

Claim 23 recites the limitation "the well" in line 2. There is insufficient antecedent basis for this limitation in the claim. There was no positive recitation of a well in claim 1.

Claim 27 recites the limitation "the well fluids feed line" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 28 recites the limitation "the well fluids feed line" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 36, it is unclear and indefinite what the structure is imparted by "a length of the pipe sections may be varied".

Claim 42 recites the limitation "the fluid feed line" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 43 recites the limitation "the transport lines" in line 2. Claim 41 does not provide a positive recitation. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**5. Claims 1, 4, 9-10, 15, 24-25, and 29- 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Bedsole (USP 5,227,061).**

Regarding claims 1 and 9-10, Bedsole discloses a separator (title/abstract) in figures 1 comprising:

A container (10) having an inner wall (container is non-rotational and the nozzle assembly provides the centrifugal effect);, a feed line transporting fluid into the container

(44 feeds to 14 - exterior portion of 14 outside container), the fluid flowing adjacent the inner wall (fluid directed adjacent to inner wall by unit 16) and at least being partially separated in the container by centrifugal or gravitational forces (C3/L25-50), the separation device further including:

A classifier device (18/26 section) in a lower section of the container (below the top, see in figures), having at least one discharge line extending in the radial direction outwards for the discharge of fluid adjacent the inner wall of the container and applying centrifugal force (see spiral/radial coiled lines 16) fed from vertical pipe (14) and a plurality of delivery lines joined to the container at different levels (30/32).

Regarding claim 4, Bedsole further provides a vertical pipe (see vertical portion of 14 which also encases 30) and a fluid line terminating within the vertical pipe (e.g. 14) and the fluid enters (16) via (14).

Regarding claim 15, Bedsole further provides a plate (see figure just above valve 32) which encloses the vertical pipe (in part) and provides passage for outlet (32).

Regarding claim 24, Bedsole separator may be used as a replaceable part in a more complex system. The recitation of "is a replaceable part of a tree on the sea bed" fails to further provide structure to the instant claims as Applicant has not positively claimed a subsea tree or that the apparatus is on the sea bed.

Regarding claim 25, Bedsole further provides a frame structure for mounting features (see bolted on portion at bottom of container).

Regarding claims 29-30, Bedsole further provides a silo/modular container (see figure 1 and bolted segments allowing it to be modular).

Regarding claim 31, Bedsole discloses a separator (title/abstract) in figures 1 comprising:

A container (10) housing a plurality of spiral tubes (16 - curved nozzle assembly) having at least one inlet (16) and selected outlets (30 and 32), the container being rotationally fixed with respect to the plurality of spiral tubes (container is non-rotational and the nozzle assembly provides the centrifugal effect);

Said at least one inlet receiving the fluids and using centrifugal force in the radial direction to separate constituents which exit the selected outlets into the container (C3/L25-50);

The constituents separating in the container using gravitational force at different vertical levels in accordance with density (C3/L35-48);

A plurality of discharge compartments arranged vertically within the container in accordance with densities (collection section 26, outlet pipe 30 for example);

and each discharge compartment communicating with a discharge pipe for removing a constituent from the container (e.g. pipe 30, pipe at drain valve 32).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**8. Claims 16, 34, 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedsole (USP 5,227,061).**

Regarding claims 16, 34, and 41, Bedsole discloses all claim limitations as set forth above.

While Bedsole does not disclose using rotary slide valves controlling discharge flow, it would have been obvious to one having ordinary skill in the art at the time of the invention to have used rotary slide valves as an acceptable valve for flow control since it is well known in the chemical arts that discharge and inlet ports are commonly controlled with valves for safety purposes. Furthermore, applicant has not established any benefit or unexpected results arising from the use of rotary slide valves. Accordingly, it would have been obvious to one having ordinary skill in the art to have considered and used rotary slide valves as the valve choice as there are a limited number of valve types available for a known task.

Regarding limitations of claims 42-44, the limitations are not positively recited as the claims do not require a transport line.

Regarding claim 45, the claim is drawn to the manner of operation of a device and provides no further structure to said device.

**9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bedsole (USP 5,227,061) and in view of Spann (USP 2,893,510).**

Regarding claim 3, Bedsole provides all limitations as set forth above. Bedsole provides a vertical pipe as well (vertical portion of 14). Bedsole is silent as to vertical upwards geometry of the spiral inlets.

Spann provides vertical upwards tangential inlet structure in figure 2 (see flow diverter 50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the direction of the spirals such that they were directed vertically upwards as taught by Spann for the purpose of providing radial flow higher in the container such that additional separation occurs prior to flow hitting the classifier section.

**10. Claims 22-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedsole (USP 5,227,061) and further in view of Galloway (USP 4,626,237).**

Regarding claim 22, Bedsole discloses all limitations as set forth above.

Galloway discloses a separation device for the separation of constituents of different density of well fluids from a well (Abstract) in figures 2-5 and 7 (also note some components in figure 1 are duplicated but not labeled in figure 7, see C10/L13-24) Galloway further discloses that at least one sensor device is disposed in an upper end



of the vertical pipe (any of the sensors depicted in the control system discussed of figure 8 as modified at C14/L54-61 for the second embodiment would be at the upper end of the vertical pipe).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Bedsole to further include a sensor device for the purpose of measuring and control system operation.

Regarding claim 23, Galloway further discloses a feedback line disposed between the separation device and the well (C14/L5-29).

Regarding claim 26, Galloway further discloses the separation device is connected to an electrical supply and a control unit adjacent the container (C12/L1-18, see also in figure 8 for the schematic for the first embodiment, see C14/L54-61 for discussion of adaptation to the second embodiment - the system inherently requires electricity and accordingly would require an electrical supply that would therefore have to be present).

**11. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedsole (USP 5,227,061) and further in view of Pokladnik et al. (USP 4,438,817).**

Regarding claim 27, modified Bedsole discloses all of the claim limitations as set forth above. While modified Bedsole does not explicitly disclose using a changeover valve in the well fluids feed line, it would have been obvious to one having ordinary skill in the art of chemical engineering to have included such a valve for the purpose of allowing for changing feed inputs. Accordingly, Pokladnik et al. further discloses an

alternative to a changeover valve of that of a manifold merging multiple well tree streams into one (see 102). Accordingly, the structure of Pokladnik is considered to be an equivalent and obvious variant structure. Thus, it would have further been obvious to one having ordinary skill in the art at the time of the invention to have considered the use of a valve system rather than a manifold to allow for controlled flow from each tree individually.

Regarding claim 28, modified Bedsole discloses all of the claim limitations as set forth above. While modified Galloway does not explicitly disclose a bypass line branching from the well fluids feed line, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined apparatus of Robertson and Pokladnik et al. to further include a bypass for the purpose of allowing for filter/separator maintenance while diverting flow to an alternative temporary separation system to minimize system/process downtime.

**12. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedsole (USP 5,227,061) and further in view of Ditria et al. (USP 6,197,095).**

Regarding claims 32-33, Bedsole discloses all claim limitations as set forth above. Bedsole is silent as to using the system in a subsea tree structure.

Ditria et al. discloses a subsea multiphase fluid separating system (abstract) wherein the separator is confined within a container and further reinjects fluid back into the well via a reinjection system (C8/L60-C9/L30).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have placed the separator of Bedsole and added it to the oil

purification system of Ditria et al. for the purpose of improving purification and recovery of oil products as well as adding an additional gravitational based separation system hooked up to provide reinjection.

***Allowable Subject Matter***

13. Claims 5-6, 11, 21, and 37-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

14. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID C. MELLON whose telephone number is (571)270-7074. The examiner can normally be reached on Monday through Thursday 9:00am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TONY G SOOHOO/  
Primary Examiner, Art Unit 1774

/D. C. M./  
Examiner, Art Unit 1777